

REMARKS

In the Office Action dated August 22, 2007, the drawings were objected to because reference character 26 in Fig. 3 was not mentioned in the written portion of the specification. In response, page 8 of the present specification has been amended to make use of reference numeral 26, and therefore no change in the drawings is necessary.

The Abstract was objected to as exceeding 150 words and because it was not more than one paragraph. The abstract has been revised and conforms to all requirements of MPEP Section 608.01(b).

A number of typographical errors were noted in the disclosure. Appropriate corrections have been made at page 7 and page 9, but there is no leading parenthesis that is missing from page 8; the leading parenthesis occurs in the line at page 8 preceding the line noted by the Examiner: (N₁ excitation locations... .

Additionally, at all locations the term "lead field" or "lead fields" has been used in place of "guide field" or 'guide fields.' This change has been made because the term "lead fields" is the most commonly used term in this context. Since "guide fields" and "lead fields" were used together or interchangeably at a number of locations in the specification, such as at page 10, line 1, no new matter is added by these changes.

Applicants acknowledge the renumbering of the claims that was done by the Examiner.

Claim 12 was rejected under Section 112, second paragraph because the phrase "said arrangement of light sensors" lacked antecedent basis. This has been

corrected by changing the dependency of claim 12 to depend from claim 9, as was originally intended.

Claims 1-13 were rejected under 35 U.S.C. §103(a) as being unpatentable over Nelson et al in view of Scholz. This rejection is respectfully traversed for the following reasons.

The Nelson et al reference is for the purpose of producing an image of an examination subject, such as an image of a female breast in a mammography examination. The image is produced using non-ionizing radiation that irradiates the entirety of the object. The result of the imaging procedure in Nelson et al, however, is a 2D image of the subject. It is true that pathological tissue in this 2D image can be identified, however, the image produced in the Nelson et al reference does not allow a spatial (i.e. three-dimensional) localization of a pathology, such as a lesion, as in the subject matter disclosed and claimed in the present application. Each of independent claims 1 and 9 has been amended to refer, in the preamble, to spatially localizing a region in a biological tissue section, as well as to state, at the end of each claim, the result of a three-dimensional location of the transformed lead fields that best reproduces the frequency-dependent signal portions as a three-dimensional location of the region to be localized.

Support for these changes is present in the specification as originally filed at the numerous locations that refer to spatially localizing a region in a biological tissue section, since the term “spatially” necessarily means an identification in space, i.e. a three-dimensional identification. Moreover, in all of the examples that are provided in the specification at pages 18 through 20, the result is a location identified with x, y and z coordinate values, thus also clearly indicating a three-dimensional localization.

Equally as importantly, the Nelson et al reference does not make any use of fluorescence in generating the image that is described therein. Each of independent claims 1 and 9 explicitly states that a laser diode arrangement is used to excite fluorescence in a fluorescing marked region in a tissue section under examination. On this point, the Examiner noted language at column 18, lines 9-14 in the Nelson et al reference describing properties of tissue that are modified due to the passage of the light beam therethrough. Fluorescence clearly is not explicitly included in this listing, but the term "spectrum" is used in this listing. Despite the passing mention of the term "spectrum" in this listing, no use whatsoever is made of any spectral properties of the tissue under examination in the procedure described in the Nelson et al reference. Applicants respectfully submit that such a general, non-specific mention of the word "spectrum" in this listing of other properties, with no further usage being made of any spectral properties of the tissue in the Nelson et al reference, is insufficient to provide any teaching, inducement, or guidance to a person of ordinary skill in the field of identifying pathological tissue locations to make use of fluorescence, as claimed in the present application. The property of fluorescence, although certainly being associated with a spectrum, is but one of many optical properties of which the same could be said. A non-specific passing reference to the word "spectrum" as in the Nelson et al reference clearly is insufficient to suggest that many specific use be made of fluorescent properties of tissue for lesion localization.

The Examiner acknowledged that Nelson et al does not disclose the method steps of modeling the tissue section and determining a set of lead fields from the model, and the other steps following from the transformation of these lead fields and

the use thereof to localize a lesion. The Examiner relied on the Scholz publication as disclosing the steps. The Scholz publication, however, is not at all concerned with lesion location using fluorescence, and the localization procedure disclosed in the Scholz publication is exclusively concerned with modeling the spatial location of dipoles, that are intentionally produced in tissue under examination by applying electrical fields to the tissue. The only location where there is any suggestion to use a modeling procedure of the type disclosed in the Scholz article, in the context of measurements involving a laser light source arrangement, is in the present specification, at page 10. Of course, it is impermissible for the Examiner to rely on insights that are not found anywhere else in the literature, except the Applicants' specification, as a basis for rejecting Applicants' claims.

Moreover, since the Scholz et al publication has nothing whatsoever to do with imaging, and since the Nelson et al reference is exclusively concerned with imaging, Applicants submit that there is no point of intersection whatsoever between the teachings of those respective documents. For the reasons noted above, since the Nelson et al reference is exclusively concerned with producing a two-dimensional image, combining the teachings of Nelson et al with the modeling technique disclosed in Scholz et al would not serve any purpose, and would not result in the subject matter of any of the claims of the present application. Nevertheless, if the Examiner disagrees, it is still Applicants' contention that, in view of the completely different techniques disclosed in the Nelson et al patent and the Scholz publication, if a person of ordinary skill in the field of pathology identification had the insight to make use of the Scholz modeling technique in the context of imaging of the type

disclosed in Nelson et al, this would be a reason supporting patentability, rather than a basis for precluding patentability.

For the above reasons, Applicants submit that none of claims 1-13 would have been obvious to a person of ordinary skill in the field of pathological tissue identification and localization, under the provisions of 35 U.S.C. §103(a), based on the teachings of Nelson et al and Scholz.

All claims of the application are therefore submitted to be in condition for allowance, and early reconsideration of the application is respectfully requested.

Applicants herewith request an extension of time of one month, so that the period for responding to the August 22, 2007 Office Action is extended from November 22, 2007 to December 22, 2007. This response is accompanied by electronic payment in the amount of \$120.00 for the requisite fee.

The Commissioner is hereby authorized to charge any additional fees which may be required, or to credit any overpayment to account No. 501519.

Submitted by,



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